

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today
(1) was not written for publication in a law journal and
(2) is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KATSUMI KANEKO
and TAKESHI MAEDA

Appeal No. 95-2746
Application 07/887,394¹

HEARD: FEBRUARY 11, 1999

Before WARREN, WALTZ and LIEBERMAN, Administrative Patent
Judges.

LIEBERMAN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 15-

¹ Application for patent filed May 21, 1992. According to appellants, this application is a continuation of Application 07/668,697, filed March 7, 1991, now abandoned; which is a continuation of Application 07/423,247, filed October 18, 1989, now abandoned.

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29, which are all of the claims in the application.²

THE INVENTION

The invention is drawn to a gas phase adsorption process wherein a pitch-based oxidized activated carbon fiber having a specific surface area of 200 to 2500 m²/g, oxygen containing functional groups and an oxygen content of about 3 to about 18% by weight based on the weight of the fiber is contacted with a gas phase containing water vapor or basic gas such as ammonia to adsorb the water vapor or basic gas. Claim 15 is illustrative and reads as follows:

15. In a gas phase adsorption process in which a gas phase containing water vapor or a basic gas is brought into

² The Notice of Appeal refers to the decision February 10, 1994 of the Primary Examiner finally rejecting Figures 5-7. The date of the final rejection is December 30, 1993, not February 10, 1994. The examiner's Advisory Action was mailed on February 7, 1994, and presumably received by appellants on February 10, 1994. Entry of a proposed drawing correction for Figures 5-7, improperly referred to in the Notice of Appeal, a procedural matter, was properly resolved by petition. The Final Rejection, Paper No. 29, dated December 30, 1993, the examiner's Advisory Action, Paper No. 31, dated February 7, 1994, Appellants' Brief, Paper No. 37, dated May 26, 1994, and the Examiner's Answer, Paper No. 38, dated July 18, 1994, maintained and addressed respectively the rejection of claims 15-29. Since the record before us, including a properly filed Appeal Brief was directed throughout to claims 15-29, it appears that any error present was harmless. Accordingly, the substantive rejections of claims 15-29 are before us for consideration.

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contact with activated carbon fiber to adsorb the water vapor or basic gas, the improvement wherein the activated carbon fiber consists essentially of pitch-based oxidized activated carbon fiber, said pitch-based oxidized activated carbon fiber having been prepared by oxidizing pitch-based activated carbon fiber having a specific surface area of 200 to 2500 m²/g, to provide the activated carbon

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fiber with oxygen-containing functional groups and an oxygen content of about 3 to about 18% by weight based on the weight of the fiber.

THE REFERENCES

The references of record relied upon by the examiner are:

Matsuo et al. (Matsuo)	4,046,525	Sept. 6, 1977
van Montfoort et al. (van Montfoort)	4,111,842	Sept. 5, 1978
Oikawa et al. (Oikawa)	4,831,011	May 16, 1989

THE REJECTIONS

Claims 15 and 28 are rejected under 35 U.S.C. § 112, first paragraph. Claims 15-29 are rejected under 35 U.S.C. § 112, second paragraph.

Claims 15-17 and 19-27 are rejected under 35 U.S.C. § 103 as being unpatentable over Matsuo in view of Oikawa and van Montfoort.

OPINION

We will not sustain the rejection of claims 15 and 28 under 35 U.S.C. § 112, first paragraph. The examiner states that the term, "basic gas," is undefined. Although, "basic gas" is defined only by example to ammonia, the term is

obviously generic to a considerable number of compounds each of which share the requisite characteristics of having the properties of a base and being a gas. It is incumbent upon the examiner to explain why he doubts the truth or accuracy of any statement in a supporting disclosure and to back up assertions of his own with acceptable evidence or reasoning which is inconsistent with the contested statement. In re Marzocchi, 439 F.2d 220, 224, 169 USPQ 367, 370 (CCPA 1971). The examiner has failed to meet the requisite burden of proof to sustain this rejection.

Similarly, we will not sustain the rejection of claims 15-29 under 35 U.S.C. § 112, second paragraph, as being indefinite. As we explained supra, the requisite characteristics of the term, "basic gas," is well known. Appellants are defining their gas in terms of one of its properties. There is nothing intrinsically wrong with the use of such a technique in drafting patent claims. In re Swinehart, 439 F.2d 210, 213, 169 USPQ 226, 229 (CCPA 1971). Hence, the rejection is not sustainable.

We will not sustain the rejection of claims 15-17 and

19-27 under 35 U.S.C. § 103 as unpatentable over Matsuo in view of Oikawa and van Montfoort.

It is understood that appellants in their Brief have separately argued the patentability of dependent claims 16 and 27. In contrast to appellants' position, our decision is based upon issues which, in our analysis, are common to and shared by each of the claims before us. Accordingly, we do not find it necessary to separately discuss claims 16 and 27. We will, therefore, substantially confine our discussion to that of claim 15.

Matsuo teaches a gas phase adsorptive process wherein the adsorptive material is an active carbon fiber, column 3, line 39-40. The active carbon fiber may be prepared from petroleum pitch fiber, column 5, lines 32-42, and in particular, line 37. Matsuo teaches neither the specific surface area, nor the oxygen content required by claim 15. In this respect, we do not agree with the examiner's position that the adsorption of ozone at a concentration of 1 ppm, Matsuo, Table 5, bridging columns 11 and 12, would inherently produce the oxygen content required by claim 15. Compare the

1 ppm disclosure of Matsuo with appellants' teachings of an ozone concentration of about 700 to about 1000 ppm, specification, page 7, lines 21 - 22, and Oikawa's teaching of 2800 ppm ozone, column 3, Table 2. The process in Matsuo is adsorption, not oxidation, Table 5.

The examiner recognizes that Matsuo does not teach the method of making the fiber. See Examiner's Answer page 4, line 4. The examiner relies upon the teachings of Oikawa and van Montfoort to show the method of making the fiber. Oikawa teaches the oxidation of active carbon with ozone or hydrogen peroxide to form surface functional units, column 2, lines 55-58. These surface functional units necessarily contain oxygen, column 3, lines 1-59. Moreover, the active carbon has a surface area within the requirements of the claimed invention, column 2, lines 59-60, and Table 2. Oikawa, however, never teaches the specific oxygen content of his active carbon. Nor are we able to determine the oxygen content of Oikawa.

Claim 15 requires an oxygen content of "about 3 to about 18% by weight." Oikawa's process is, however, not comparable to appellants. Oikawa's process does not terminate with the

oxidation of the active carbon. Patentee thereafter treats the fiber with Fe^{+2} , which results in interaction between the Fe^{+2} ions and the oxygen containing functional groups on the surface of the carbon, Fig. 1(b) and column 3, lines 59 through column 4, line 47. It is this modified carbon which is used in a gas phase adsorption process. See column 4, lines 59-63 and Table 3.

Claim 15, however, requires an activated carbon fiber, "with oxygen containing functional groups and an oxygen content of about 3 to about 18% by weight based on the weight of the fiber." Based on the teachings of Oikawa, we are unable to make a positive finding either with respect to the presence of oxygen containing functional groups or to the oxygen content of about 3 to about 18 % by weight based on the weight of the fiber as required by claim 15.

The oxygen containing functional groups have been reacted with the Fe^{+2} ions such that it cannot be determined if oxygen containing functional groups remain or how many. Similarly, we are unable to determine the oxygen content, as an indeterminate amount of Fe^{+2} is chemically bonded to the

oxygen containing functional group and constitutes a part of the active carbon.

Nor can we state that active carbon in the form of fiber which "consists essentially of pitch-based oxidized activated carbon fiber" as specified in claim 15, includes a fiber which has been after treated with Fe^{+2} ion so as to function in a chemically distinct manner. Hence, the disclosure of Oikawa is not sufficient to teach the oxygen content limitations of claim 15 also omitted by Matsuo, the primary reference relied upon by the examiner.

Finally, we agree with appellants' analysis of the teachings of van Montfoort in appellants' Brief, in the paragraph bridging pages 12 and 13. The reference is not only drawn to non-analogous art, it also fails to state the oxygen content of the activated carbon fiber. Van Montfoort subjects activated carbon fiber to oxidation, but thereafter deposits catalytically active metal on the activated carbon support and utilizes it in entirely distinct processes. The person having ordinary skill in the art at the time the invention was made would have had no reason to look to the teachings of van Montfoort or

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combine them with either of the other references of record.

Accordingly, the decision of the examiner is reversed.

DECISION

The rejection of claims 15 and 28 under 35 U.S.C. § 112, first paragraph, is reversed.

The rejection of claims 15-29 under 35 U.S.C. § 112, second paragraph, is reversed.

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The rejection of claims 15-17, and 19-27 under 35 U.S.C.
§ 103 is reversed.

REVERSED

	CHARLES F. WARREN)	
	Administrative Patent Judge)	
)	
)	
)	
	THOMAS A. WALTZ)	BOARD OF
PATENT	Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
)	
	PAUL LIEBERMAN)	
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